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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,661	12/01/2003	Qiangsheng Xiang		9419
75	90 05/02/2	005	EXAM	INER
Qiangsheng X	iang	OIPE	BOUTSIKARIS	S, LEONIDAS
37037 Magnolia Newark, CA			ART UNIT	PAPER NUMBER
,		MAY 1 6 2005 5	2872	
	•	MAY	DATE MAILED: 05/02/200	5

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED May 17 2001 DIBE / ICWS

103			No. (1)	<i>k</i>
5116	·c,	Application No.	Applicant(s)	
28	Marian detion Summan	10/724,661	XIANG ET AL.	
MAY 1 6 2	Office Action Summary	Examiner	Art Unit	
W		Leo Boutsikaris	2872	
Period fo		ppears on the cover sheet w	ith the correspondence address	
THE - Exte after - If the - If NC - Failt Any	ORTENED STATUTORY PERIOD FOR REP MAILING DATE OF THIS COMMUNICATION nsions of time may be available under the provisions of 37 CFR SIX (6) MONTHS from the mailing date of this communication. Period for reply specified above is less than thirty (30) days, a report of for reply is specified above, the maximum statutory period reto reply within the set or extended period for reply will, by stature to reply within the set or extended period for reply will, by stature ply received by the Office later than three months after the mailed patent term adjustment. See 37 CFR 1.704(b).	.136(a). In no event, however, may a eply within the statutory minimum of thi d will apply and will expire SIX (6) MOI ate, cause the application to become Al	reply be timely filed rty (30) days will be considered timely. NTHS from the mailing date of this communic BANDONED (35 U.S.C. § 133).	ation.
Status				
1)⊠	Responsive to communication(s) filed on <u>01</u>	December 2003.		
2a) <u></u> ☐	This action is FINAL . 2b)⊠ Th	is action is non-final.		
3)	Since this application is in condition for allow	ance except for formal mat	ters, prosecution as to the merit	s is
	closed in accordance with the practice under	Ex parte Quayle, 1935 C.E	D. 11, 453 O.G. 213.	
Disposit	ion of Claims			
4)🛛	Claim(s) 1-8 is/are pending in the application	l.		
	4a) Of the above claim(s) is/are withdr	awn from consideration.		
5)□	Claim(s) is/are allowed.			
6)⊠	Claim(s) 1-3 and 5-8 is/are rejected.			
7)⊠	Claim(s) 4 is/are objected to.			
8)□	Claim(s) are subject to restriction and	or election requirement.		
Applicat	ion Papers			
. 9)□	The specification is objected to by the Examin	ner.		
10)🖂	The drawing(s) filed on <u>01 December 2003</u> is	/are: a)⊠ accepted or b)□	objected to by the Examiner.	
, _	Applicant may not request that any objection to the			
	Replacement drawing sheet(s) including the corre		•	21(d).
11)[The oath or declaration is objected to by the	•	• • •	
Priority (ınder 35 U.S.C. § 119			
• —	Acknowledgment is made of a claim for foreignal All b) Some * c) None of: 1. Certified copies of the priority docume	nts have been received.		
	2. Certified copies of the priority docume	nts have been received in A	Application No	
	3. Copies of the certified copies of the pri	ority documents have been	received in this National Stage	
	application from the International Bure	au (PCT Rule 17.2(a)).		
* 5	See the attached detailed Office action for a list.	st of the certified copies not	received.	
Attachmen		" .	2(DTC 442)	
	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948)		Summary (PTO-413) s)/Mail Date	
$\cdot =$	mation Disclosure Statement(s) (PTO-1449 or PTO/SB/0	5) Notice of I	nformal Patent Application (PTO-152)	
	r No(s)/Mail Date	6)	<u></u> ·	

DETAILED ACTION

Claim Objections

Claims 1-8 are objected to because of the following informalities: Claim 1 should be written as a single sentence with a single period at the end.

Claims 2-8 inherit the deficiency of claim 1 from which they depend.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 refers to a magnet core having a polygonal ring shape (line 1). However, later in the claim, "said circular ring" is recited (line 4), which lacks antecedent basis. Furthermore, assuming that the claim recites "said polygonal ring", it is not clear how the outer diameter Do and the length L of the polygonal ring are defined.

Claim Rejections - 35 USC § 102

Art Unit: 2872

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated by Liu (US 6,580,546).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. However, it is noted by the examiner, that Fig. 6 of the above reference is exactly the same as Fig. 4 of the present application, which is labeled as "Prior Art", thus effectively establishing it as "Admitted Prior Art".

Regarding claim 1, Liu discloses a Faraday rotator device (Fig. 6) comprising:

- a) magneto-optic material 101;
- b) two semi-hard magnet cores 104 located in proximity to the magneto-optic material 101 such that the magneto-optic material is affected by the magnetic field of the semi-hard magnet cores 104;

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c) two soft-magnet tubes 105 located in proximity to the semi-hard magnet cores 104 such that a continuous magnetic flux path from the soft magnet tube to the semi-hard magnet core can be formed;

d) a coil 102 encompassing the magneto-optic material 101, the semi-hard magnet cores 104, and the soft magnet tubes such that current passing through the coil generates a magnetic field at the location of the magneto-optic material (lines 12-43, col. 7, lines 20-21, col. 6). It is noted that "encompassing" is taken broadly to mean "to form a circle about" (Merriam-Webster's Collegiate dictionary, tenth edition, at 380).

Regarding claim 2, the device of Fig. 6 further includes a soft magnetic adaptor comprising the edges of 105, which are vertical with respect to the light beam propagation direction.

Regarding claim 3, the semi-hard magnetic core has coercitivity in the range of 20 to 100 Oersteds (lines 48-52, col. 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US 6,580,546).

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Liu discloses all the limitations of the above claims except for specifying the size, length and consequently the resistance of the magnet wire coil. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the coil wire have the claimed size characteristics, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Here, the effective variable is the size and length of the coil wire, which affect the current that flows through the wire and the created magnetic field. Liu discloses that typical values of current are close to 100 mA, and the claimed ranges would provide smaller currents.

Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 4-5 are allowable over the prior art of record for at least the reason that even though the prior art discloses a Faraday rotator device comprising soft-magnet and semi-hard magnet cores in proximity with the magneto-optic material, the prior art fails to teach or reasonably suggest, regarding claim 4, a Faraday rotator, wherein the semi-hard magnet core is in circular ring shape with the claimed geometrical characteristics, and regarding claim 5, a

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Faraday rotator, wherein the semi-hard magnet core is in polygonal ring shape with the claimed

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geometrical characteristics, as set forth by the claimed combination.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D.

Primary Patent Examiner, AU 2872

April 28, 2005

LEONIDAS BOUTSIKARIS PRIMARY EXAMINER

Application/Control No. Applicant(s)/Patent Under Reexamination XIANG ET AL. Examiner Leo Boutsikaris Applicant(s)/Patent Under Reexamination XIANG ET AL. Page 1 of 1

U.S. PATENT DOCUMENTS

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	Α	US-6,580,546	06-2003	Liu et al.	359/280
•	В	US-			
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FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

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A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.